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C4 Systems

Land Warrior Commander's Digital Assistant (CDA)

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Land Warrior (LW) CDA Topics

- Program Background
- Early Development and Functionality
- Early Tests and Deployments
- Land Warrior Merger Study
- Force XXI Battle Command Brigade and Below CDA
- New Form Factor CDA
- CDA Path Forward
- Summary
- Questions

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Early Development and Functionality

- **Program goal was to provide a Situational Awareness (SA) capability to dismounted leaders prior to Land Warrior fielding**
- **Two COTS based systems: CDA-H and CDA-T**
  - Generation 1- Rugged iPAQ, external Garmin GPS, LW-IC SW
  - Generation 2- Rugged iPAQ, MicroINC, CDNS software
  - Generation 3- Rugged iPAQ, embedded GPS and INC, CDNS software

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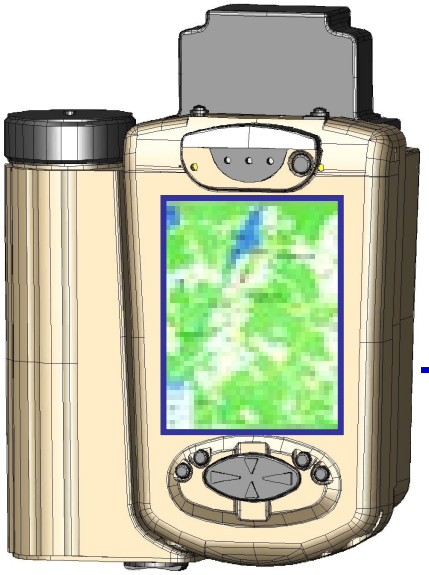
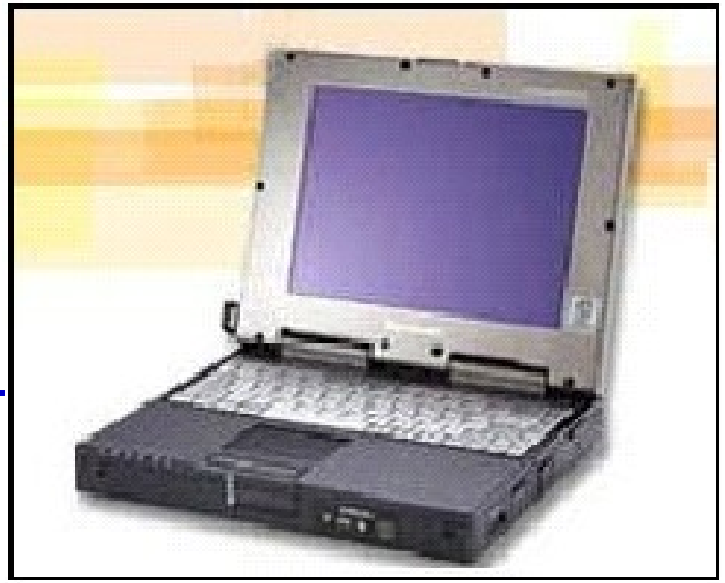
Early CDA Versions



CDA-H

RS232 Cable



CDA-T

Modem/GPS & Battery Pack

SINCGARS ASIP

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Early Tests and Deployments

- 2nd and 3rd brigade, 82nd ABN Div deployments to OIF (Spring and Fall ’03)
- Ranger Quick Look (Sep ’03)
- USMC CDA-Iridium® demonstration (Oct ’04)
- UK FIST demonstration (March-April ’04)
- 18th ABN Corps Command Post exercise (Spring ’04)
- Key lessons learned

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Land Warrior Merger Study

- **CDA should be merged into LW program**
  - ➢ Provide an early spiral of LW capability to leaders
- **Definition of core HW and SW components**
- **MOU between PM Soldier Warrior and PM FBCB2**
  - PM Soldier Warrior will develop CDA hardware
  - PM FBCB2 will develop CDA SA/C2 software

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FBCB2 CDA Capabilities

- Provides SA and C2 features similar to the vehicle mounted FBCB2 BFT currently deployed
- Can send pre-formatted and free-text messages quickly
- Can send multiple messages simultaneously to various recipients
- Allows for easy tracking of routes, locations and friendly units
- Can be used for mounted and dismounted operations
- Mayday message capability
- Zeroize GPS, destroy FBCB2 SW and data
- Interfaces with multiple Army inventory radios

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FBCB2 CDA

- Ruggedized iPAQ 3970
- Intel X-scale 400 MHz processor with 64 MB RAM
- 64K Color, TFT LCD, with 240 X 320 touch screen
- Integrated L-Band Transceiver
- Integrated GB-Gram SAASM GPS
- Integrated Tactical Modem for radio interoperability
- Uses 9, 2/3A batteries or BB2800
- Combined L-band/GPS antenna

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New Form Factor CDA

- **Response to requirements for:**
  - Full FBCB2
  - Larger display for better SA
  - More memory and storage for ease of loading maps
  - Ability to run other applications alongside FBCB2
  - Ability to run with various operating systems (Solaris, Linux, Windows)

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New Form Factor CDA

1.1 GHz Pentium Mobile
1GB RAM
20GB Hard Drive
EMI Shielded Touch Display

- **6.5” VGA or 8.4” SVGA Displays**
- **Integrated Communications**
  - **Embedded Terrestrial Modem**
    - **Over-The-Horizon (L-Band)**
- **Integrated GPS**
  - **Commercial**
  - **Military (SAASM)**
- **COTS Rechargeable Battery**
- **Removable Antenna**
  - **Dismounted**
  - **Mounted**

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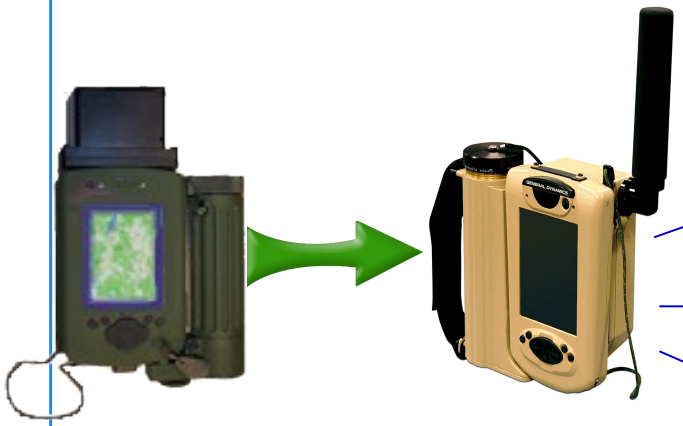
CDA Development Path

In Use Now



In Development Now

New Form Factor

MBITR Interface

EPLRS Interface

Tactical
Human Intel Teams and Combat Patrols
1,000 systems

TSM-XXI
7,000 systems

Ground Soldier System Leader Device

Goal of Generations 1 thru 3:
- Develop an Integrated, Army Common Device for Hand-Held Battle Command and Situational Awareness (SA)

Goal of Generation 4:
- Shared Battle Command and SA with the FBCB2 Network

Goal of Generation 5:
- Full FBCB2
- Larger display
- Greater memory & storage
- Capability for multiple applications

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CDA Path Forward

- **Smaller, lighter, better battery life**
- **Additional Roles for CDA**
  - UAV, UGV, Robotics controllers
  - Medic, Chaplain, other, digital assistant
  - Leader's Tablet
- **Integration into programs such as LW/DBCS, FFW, GSS, FCS**

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Summary

- **Spiral development, incorporating user feedback has added capabilities**
- **Development of FBCB2 CDA and NFF CDA platforms continues**
- **Planning and concept development for near and long term programs underway**
- **CDAs are integral to a soldier's ability to develop and share SA and C^2 information on the future battlefield**

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Questions?

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Acronyms

- BFT- Blue Force Tracking
- C2- Command and Control
- DBCS- Dismounted Battle Command System
- FBCB2-Force XXI Battle Command Brigade and Below
- FCS- Future Combat System
- FFW- Future Force Warrior
- GPS- Global Positioning System
- GSS- Ground Soldier System
- LW- Land Warrior
- NFF CDA- New Form Factor Commander's Digital Assistant
- OIF-Operation Iraqi Freedom
- SA- Situational Awareness
- UAV- Unmannned Aerial Vehicle
- UGV-Unmanned Ground Vehicle

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